

friendly” features or technical capabilities. In the absence of any specific discussion of practical issues pertaining to implementation of the Commission’s general proposal, all commenters will have difficulty in providing precise cost estimates.

The Commission has not, for example, discussed the type of access that viewers should be afforded to public file documents on the Internet. Should members of the public be able to download documents in full text, or is access via .pdf files and a reader like Adobe Acrobat sufficient? More significantly, the *Notice* failed to address what types of indexing and search capabilities would be considered appropriate for an Internet public file. If thousands of public file documents are simply scanned and posted on a website without indexing or searching capabilities, then the usefulness to the public of placing the public file on the Internet would be virtually nil. However, as more sophisticated indexing and search tools are utilized, the costs to broadcasters increase substantially. The attached report by Microserve Consulting, Inc. in fact estimated that to convert a 14,000 page paper public file to HyperText Mark-Up Language (“HTML”) (including adding HTML tags for indexing),³⁹ and to provide a search mechanism that allows for full text searching, would cost approximately \$292,000. *See* Attachment B at 2-3. And of course the costs would be even higher for any stations that do not have a website (or that would need to upgrade their sites and servers), as those stations would incur substantial additional costs in creating the site, maintaining the site content, and hosting the site (or in contracting out these tasks).⁴⁰

³⁹ HTML is the standard of the World Wide Web. The conversion process would include scanning all documents and running them through an OCR (Optical Character Recognition) program.

⁴⁰ Again, these costs would likely vary depending on such factors as the type of hardware purchased, the security and backup systems employed, and the overall design of the site (*e.g.*, how many additional features added to improve site navigability). *See* Attachment B at 3-5 (estimating costs in the hundreds of thousands of dollars for creating, maintaining and hosting a

Thus, it is clear that the costs and burdens associated with the Commission's proposal would vary greatly depending on whether Internet sites with public files possess such "user friendly" features and technical capabilities as full text searching, ease of navigability, and the ability to download documents.⁴¹ Building a fully functional Internet site containing a station's entire public file that has all these features – and therefore a high level of usefulness to the public – would clearly entail very significant costs for broadcasters, as shown by the attached report from Microserve Consulting. It may be that the Commission would not expect broadcasters to provide such technical features and user friendly characteristics for their Internet public files, but the Commission has apparently not given any thought as to what it would expect. Before requiring broadcasters to place their public files on the Internet, the Commission accordingly needs to specify the technical features and capabilities it would want Internet public files to possess and determine the costs associated with those features.⁴² But from the evidence available now, it is clear that the greater the degree of user friendliness and viewer accessibility desired by the Commission, the greater the costs and burdens imposed on broadcasters. Indeed, to make a public file posted on the Internet easier for members of the public to use than the

new website that would include public file documents). Costs could also vary depending on whether stations were able to perform some of these tasks "in house" or whether they contracted out all website related work. As shown in NAB's survey, over two-thirds of the television stations with websites currently contract out the hosting, development and/or maintenance of their sites. Finally, the length of time given to stations to post their public files on the Internet could affect the costs of this conversion.

⁴¹ Designing new websites or making existing ones accessible to persons with disabilities under W3C/WAI guidelines, as the Commission has suggested (*see Notice* at ¶ 32), would also increase costs, although an accurate estimate appears difficult to make. *See Attachment B* at 5.

⁴² The Commission could consider issuing a further notice of proposed rulemaking to explore these technical and cost issues in greater detail. The failure to even refer to these technical questions and their effect on costs has certainly contributed to the Commission's underestimation of the likely costs and burdens associated with its proposal in this *Notice*.

existing paper public file, the resulting costs and personnel burdens on broadcasters would likely prove to be inordinate.

B. The Benefits to be Derived from Placing Stations' Public Files on the Internet Appear Less Than the Commission Assumed.

Beyond underestimating the costs and failing to consider any of the technical questions associated with placing stations' public files on the Internet, the *Notice* (at ¶ 31) appeared to overestimate the benefits to be derived from the proposal. In addition, there may be problems that the Commission has not considered in posting certain parts of the public file on a website.

As an initial matter, NAB points out that more and more of the contents of any station's public file may be accessed by members of the public through the Commission's own website. For example, several reports filed by licensees with the Commission and placed in their public files, including the Children's Television Programming Report, the Broadcast Equal Employment Opportunity Program Report, the Broadcast Statement of Compliance, and the Ownership Report, are all available on the FCC's website. In addition, numerous applications that must be kept in public files, including those for new construction permits, for changes to existing stations, and for transfer or assignment of licenses, are now available on the FCC's website.⁴³ Even the procedural manual "The Public and Broadcasting" that licensees must keep in their public files is available on the Commission's website. Because a considerable (and growing) proportion of any station's public inspection file is already accessible 24 hours a day to members of the public through the FCC's website, NAB questions the extent to which the public interest is served by placing much of the same information on another website. Given the relatively limited benefits to be derived from a requirement to post increasingly duplicative

⁴³ NAB notes that the Commission is continually increasing the number of applications that may be filed electronically and that are available to members of the public on the FCC's website.

information on the Internet – especially in comparison to the costs and technical complexities involved – NAB urges the Commission to decline to adopt its proposal.

The benefits of the Commission’s proposal are also limited because those persons with primary interest in viewing any station’s public file already have “reasonable access” to the file under the Commission’s existing rules.⁴⁴ The Commission has expressly recognized that a station’s local public inspection file is intended to serve the *local* viewers of each station, and that persons outside a station’s geographic service area have a less compelling interest in access to that station’s public file.⁴⁵ Thus, posting stations’ public files on the Internet offers relatively limited additional public benefits, because persons outside a station’s service area have little interest in that station’s performance and persons inside a station’s service area already have reasonable access to the local public file. The main effect of placing a station’s public file on an Internet website would therefore be to enhance availability to persons who have a less than compelling interest in accessing information in the public file.

We also believe that the Commission may not have considered all the practical problems raised by stations’ posting their entire public files on an Internet website. Letters and e-mails

⁴⁴ “If a station chooses to locate its main studio and public file in its community of license,” then “the public file will be *reasonably accessible*” to viewers by visiting the station. *Memorandum Opinion and Order* in MM Docket No. 97-138, FCC 99-118 at ¶ 13 (rel. May 28, 1999) (emphasis added). If a station locates its main studio and public file outside the city limits of the community of license, that station will also be required to mail public file documents to persons within the station’s service area, when requested to do so by telephone. *Id.*; 47 C.F.R. § 73.3526(c)(2).

⁴⁵ See *Memorandum Opinion and Order* in MM Docket No. 97-138, FCC 99-118 at ¶¶ 12-15 (rel. May 28, 1999) (although stations with main studios located outside their communities of license must generally honor any requests for public file documents made by telephone, the Commission expressly limited this telephone request rule to require the mailing of documents only to individuals within the geographic service area of the station; this limitation was

received from members of the public constitute a substantial portion of any station's public file, and placing these viewer comments and suggestions on the Internet may raise serious privacy and confidentiality concerns. A person sending written correspondence to a particular television station may not expect or want the contents of that correspondence made available to the entire world by posting it on a website. Even more troubling would be making available the name, address, e-mail address, and perhaps even telephone number of members of the public who include such information in written comments or suggestions sent to television stations. Moreover, a broadcaster cannot be expected to edit every piece of written correspondence to remove all such information that the sender might conceivably object to having posted on the Internet.

Given that a station's public file includes much information already available on the FCC's website, and other information that implicates privacy and confidentiality concerns, the Commission should reexamine its proposal to require the Internet posting of public files in light of the record presented. For all the reasons discussed above, the benefits of this proposal do not outweigh the considerable costs and technical uncertainties, and the proposal should not be adopted.

C. The Commission Should Consider Less Burdensome Alternatives to its Proposal.

If the Commission, despite the burdens and technical questions associated with posting a station's public file on a website, nonetheless determines to utilize the Internet with regard to the public file in some manner, NAB asks the Commission to consider less problematic alternatives. Rather than requiring stations to convert thousands upon thousands of pages of paper to electronic format and post them on the Internet, the Commission should instead consider

consistent with "ensuring the continued access of *local* viewers and listeners of each station")

requiring stations to include information about their public files on their Internet websites. For example, a station's website could provide (1) information about the contents of its public file; and (2) all relevant details about visiting the station to view the public file or requesting file documents by telephone.⁴⁶ Providing this detailed information about stations' public files should resolve any confusion by members of the public as to their rights to see these files and the procedures for doing so if they are interested. NAB believes that providing such information via the Internet should be sufficient to allay Commission concerns about the public's access to station files, as the *Notice* does not demonstrate any general or widespread problems with the public obtaining access to stations' public files even under the Commission's existing rules.⁴⁷

If the Commission declines to adopt the approach suggested above, NAB strongly urges the Commission to at least exempt the "political file" from any general requirement to post the public file on a website. A station's political file must include all requests for time made by or on behalf of local, state and federal political candidates.⁴⁸ The Commission has stated that, under normal circumstances, it would expect the station to place the required rate and other

(emphasis added).

⁴⁶ Specifically, the station's website could provide the name, telephone number and e-mail address of the appropriate contact person; the location of the station's public file; the hours the public file is available for viewing; and information about receiving public file documents through the mail pursuant to telephone request, if the station's main studio and public file are located outside the city limits of the station's community of license.

⁴⁷ Indeed, the existing paper public file would likely be easier for members of the public to use than a public file posted on the Internet without the indexing and searching capabilities that would be expensive and burdensome for broadcasters to implement. *See* Section III.A. above.

⁴⁸ More specifically, the political file contains, *inter alia*, a complete record of all requests for airtime by or on behalf of candidates, with a notation showing how each request was handled, including (i) the schedule of time purchased; (ii) the classes of time purchased; (iii) the rates charged; and (iv) when each spot actually aired. 47 C.F.R. § 73.1943(a). This political file information must be retained in the station's public inspection file for a two-year period. 47 C.F.R. § 73.3526(e)(6).

information in its political file “as soon as possible,” which means “immediately.” *Political Programming Policies, Report and Order*, 7 FCC Rcd 678, 698 (1991); 47 C.F.R. § 73.1943(c). Because, under these requirements, licensees’ political files must, as a practical matter, be updated virtually every day in every election season, it would be unduly burdensome for broadcasters to post their political files on an Internet website. Especially given the limited personnel available for a number of broadcasters to deal with Internet/website issues, licensees should not be required to update their websites every day, which would be the practical result of applying current Commission rules to political files posted on a website.

Moreover, exempting the political file from a broader rule requiring the Internet posting of public files would not undermine the Commission’s goal of improving the general public’s access to station public files. The Commission previously exempted the political file from the public file “telephone accommodation” requirement.⁴⁹ In exempting the political file from this requirement, the Commission noted that candidates or their representatives, rather than the general public, are the persons most concerned with stations’ political files. Candidates and their representatives are also “more likely to have greater resources and be more able to access the main studio and public file in person than would an average citizen.” *Memorandum Opinion and Order* in MM Docket No. 97-138, FCC 99-118 at ¶ 22 (rel. May 28, 1999). For these reasons, the Commission concluded that exempting the political file from this accommodation requirement would not “adversely affect the public interest.” *Id.*

⁴⁹ This accommodation requires a station that locates its main studio and public file outside the city limits of its community of license to mail public file documents to persons within the station’s geographic service area when requested to do so by telephone. 47 C.F.R. § 73.3526(c)(2).

For similar reasons, NAB believes that the Commission should at the least exempt the political file from its proposal concerning the broader public file. The general public has a very limited interest in the contents of broadcasters' political files, so placing these files on the Internet would not promote the Commission's stated goal in this proceeding. Moreover, the Commission's regulations requiring immediate updating of political files would increase the burden on broadcasters if political files were required to be posted on Internet websites. The Commission should therefore exempt the political file from any general requirement to post station public files on the Internet.⁵⁰

IV. Conclusion

Overall, NAB urges the Commission to rethink its approach in this proceeding. The *Notice* generally emphasized the collection and reporting of information, rather than realistically considering whether the proposals made would directly serve regulatory purposes relevant in the increasingly competitive media marketplace. The *Notice* also contained specific proposals, such as ascertainment, that are clearly reminiscent of policies discarded years ago as ineffectual or unnecessary. NAB questions the evidentiary basis and policy rationale for resurrecting such policies today, particularly in light of the increased number of media outlets and the promise of even greater media abundance in the digital future.

NAB also has serious reservations about the proposal to create a new standardized form inquiring about broadcasters airing of programming in certain FCC-defined categories. The

⁵⁰ For the reasons stated in Section III.B. above, the Commission should also consider exempting letters and e-mails received by stations. Persons sending comments or suggestions to stations would not generally expect the contents of their correspondence, or any personal information contained in their correspondence, to be made available worldwide via the Internet. This written correspondence also constitutes a large proportion of any station's public file, and the need to convert so many individual documents into proper format for posting on the Internet does present a substantial burden for broadcasters.

adoption of a standardized form requiring broadcasters to identify the programming aired in particular government-established categories would implicate constitutional concerns by involving the Commission in content-based regulation, and would likely result in the increased homogenization of television programming, as broadcasters respond to the Commission's expressed programming preferences. Retention of the Commission's current approach (issues/programs lists) would be preferable to adoption of a new standardized form.

NAB additionally disagrees with the Commission's unsupported assertion that converting a television station's entire public inspection file into an electronic format and placing it on an Internet website would not be unduly burdensome. As NAB has shown, the Commission's proposal would entail significant burdens, particularly on stations with limited personnel resources, some of which do not even currently have websites. The proposal also failed to consider any questions relating to the technical characteristics of Internet public files, or the costs associated with making such public files truly user friendly. Especially in comparison to the substantial costs, burdens and technical uncertainties of the proposal, the benefits to be derived from placing public files on the Internet appear less than the Commission assumed. For these reasons, the Commission should refrain from adopting this proposal, or should at the very least consider less problematic alternatives.

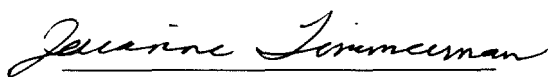
As has been well stated, a "regulation must promise to *materially advance* [desirable] goals, and whatever *costs it imposes must be outweighed by the benefits* the regulation creates; furthermore, if the goals could be *achieved in a less costly manner*, then the latter should be the approach selected." Krattenmaker and Powe, *Regulating Broadcast Programming* at 309 (emphasis added). The various proposals set forth in the *Notice* do not, as NAB detailed above,

meet these various strictures. The Commission should accordingly decline to adopt its proposals.

Respectfully submitted,

NATIONAL ASSOCIATION OF BROADCASTERS

1771 N Street, NW
Washington, DC 20036
(202) 429-5430

A handwritten signature in cursive script, reading "Jerianne Timmerman".

Henry L. Baumann
Jack N. Goodman
Jerianne Timmerman

Mark R. Fratrik, Ph.D.
NAB Research and Planning

December 18, 2000

ATTACHMENT A

Television Web Site Activity

Mark R. Fratrik, Ph.D.

Vice President/Economist

National Association of Broadcasters

December 13, 2000

Television Web Site Activity

In its recent proposal on requiring local television stations to provide access to their public files via the Internet, the Commission raised questions as to the difficulty stations may have in satisfying that requirement.¹ To start to answer that question, we conducted a one-page survey of all commercial stations asking about their present web activity and what constraints (i.e., disk drive space) they may face in implementing the Commission's proposal. A copy of the questionnaire is included in Appendix A.

Questionnaires were faxed to 1,064 commercial television stations² and 442 stations responded, resulting in a 41.6% response rate. Care should be taken when generalizing the results of this survey as the responses may not reflect the entire population.

Of the 442 stations responding, 371 (83.9%) indicated that they presently have a web site. Of those that do not, 45.1% indicated that they were planning to have a web site established in the next six months.

For those stations that have web sites, they currently utilize widely varying drive space, from 1 megabyte to 175 gigabytes. The average station responding to this question reported that it is currently utilizing 1.8 gigabytes. They have available - either through a contracted application service provider (ASP), Internet Service Provider (ISP), or their own hardware - about 6.5 gigabytes in drive space. More than two-thirds (67.4%) indicated that they contract out the hosting, development or maintenance of their web sites, one-quarter (26.1%) doing all of those tasks themselves, and the remaining 6.5% not answering that question. Finally, responding stations indicated that they have 1.1 full-time equivalent personnel dedicated to the creation and maintenance of their websites.

¹ Notice of Proposed Rulemaking in MM Docket NO. 00-168, FCC 00-345 at ¶ 31 (rel. Oct. 5, 2000).

² This represents all non-satellite commercial television stations with known fax numbers who were successfully contacted after four attempts.

Appendix A

**ATTENTION GENERAL MANAGER:
WE NEED YOUR HELP!**



**Survey of Television Web Site Activity
November/December 2000**

The FCC has proposed requiring television stations to post their public files on their web sites. In order to respond to this proposal, the NAB needs information about the number and extent of websites. You may wish to consult with your Webmaster or the individual responsible for your station's web site, if you have one.

The information you provide will be compiled with that of other stations and **will be kept strictly confidential**. Individual station or market data will not be made available to anyone. If you have any questions, please contact Mark Fratrik of the NAB Research and Planning Department at (202) 429-5377.

**Please fax your response back to (202) 721-8799 or (202) 775-2980
no later than Monday, December 4, 2000**

Name: _____ Phone: _____

Call Letters: _____ E-mail: _____

1. What is the title of the person responsible for your station's public file? _____

2. Does your station have a web site? ☐ Yes ☐ No

IF NO:

Do you plan on establishing a web site in the next 6 months? ☐ Yes ☐ No

Please fax your response back to (202) 721-8799 or (202) 775-2980.

IF YES:

3. Approximately how much drive space are you currently utilizing for your web site?

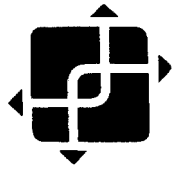
4. Do you contract out the hosting, development or maintenance of your website to an applications service provider (ASP) or Internet Service Provider (ISP)? ☐ Yes ☐ No

5. How much hard drive space is guaranteed under your contract (if you are utilizing an ASP or ISP) or how much is available with your own hardware if you are hosting the site yourself?

6. How many full-time equivalent (FTEs) personnel do you have dedicated to the creation and maintenance of your website?

**Please complete and return by December 4, 2000
to (202) 721-8799 or (202) 775-2980**

ATTACHMENT B



MicroServe Consulting, Inc.

December 8, 2000

National Association of Broadcasters
Oscar Moreno, Manager/Software Engineering
1771 N Street NW, Washington, DC 20036

Dear Oscar:

Thank you for using MicroServe Consulting, Inc. to help you with this project. Attached is our report containing the estimated costs to convert an approximately 14,000 page paper file to HTML, create a web site to house the HTML documents, create indexes, create & implement a search engine, and host the web site according to the information in your e-mail dated November 28, 2000 and updates from subsequent phone conversations.

We made several assumptions in putting this report together which I have outlined below:

1. This report contains preliminary figures on the conversion costs for documents converted from original paper source using a scan/OCR process. If the documents are "OCR-able" they must be at least 98.5% correctly recognized on the first OCR pass. If the errors exceed that level then the documents would have to be double keyed or keyed & proofed. The cost would be two to three times the cost of OCR and cleanup. Because of this, the conversion cost should be viewed as a rough estimate only, not a firm quote.
2. To provide a firm price, one would need to have several samples of each type of document that will be converted, samples of the different paper quality, an accurate count of the number of pages to be converted, & an accurate count of the number of images that will be scanned. Since these samples and counts were not available, we used our past experience, a document from the FCC's web site, and an estimate of the number of pages & images to be converted to create our price estimate for conversion. Please be aware that the actual costs may vary greatly from the estimated price because of the "unknown" nature of the source documents.
3. Indexing will be based on the document's title, author, number, and date which will be indicated in the document with HTML tags. Full text search capability will be provided via a third party indexing and searching software.
4. We estimate this project will take approximately 6 months to fully implement. This is dependent upon document availability, source document specifications, and response time to questions.
5. The documents provided for conversion are original documents, not copies.
6. Hardware requirements are based on the document estimates and rough estimates of client access. The hardware requirements will increase if the load on the site increases beyond the expected level.
7. Telecommunications costs are based on rough estimates of client access. The telecommunications costs will increase if the client access demand exceeds the estimated level.
8. Content maintenance is estimated on an hourly basis. If the need for maintenance exceeds the estimate then additional hours (cost) will be needed to meet the need.

If you have any questions, please do not hesitate to give me a call.

Sincerely,
MicroServe Consulting, Inc.

Rick Albert,
Senior Consultant

Voice: (301) 670-9791
Fax: (301) 417-0036

16620 Sioux Lane
Gaithersburg, MD 20878-2047

www.msconsulting.com
rick@msconsulting.com

Estimated costs to convert, index, and maintain approximately 14,000 pages of documents, design & build a web site for the documents, and host the web site.

Scope

This report is based on the following information provided by the National Association of Broadcasters and is organized according to items 1a – 1f in the list below:

- 1) Provide solid evidence on cost (personnel, time, software, etc) for the following:
 - a) converting around 14,000 document pages into electronic format (scan, OCR, correct and publish);
 - b) provide a search mechanism (search engine) to retrieve documents based on any text, title, author, document number, and date;
 - c) creating and maintaining a web site;
 - d) updating the converted documents as often as required (monthly, quarterly);
 - e) maintaining the information on the site for as long as required;
 - f) provide evidence of the cost associated with helping radio and TV stations to convert their websites to make them accessible to persons with disabilities using W3C/WAI guidelines.

A. Document Conversion:

We used the following information to estimate the costs to convert the documents & images to HTML:

Item	Quantity
Total Pages	14,000
Characters per Page	2,000
Total Characters	28,000,000
Total Images	7,000

The estimated costs to convert the documents are as follows:

Item	Cost
Scan, OCR, Verify	\$ 60,000
Scan & Convert Images	\$ 2,000
Index	\$ 64,000
Shipping (both ways)	\$ 2,112
Total Estimated Conversion Cost	\$ 128,112

Estimated costs to convert, index, and maintain approximately 14,000 pages of documents, design & build a web site for the documents, and host the web site.

B. Search Mechanism:

Searching will be provided by a front end application on the web site that allows the user to enter a document's title, author, number, or date; or any text phrase. When the user clicks the submit button, the web server will search the indices to find all documents matching the request, then display a summary of the document and a link to the full text of the document. The user can select a document by clicking the link to the document, and the web server will display the selected document in the user's browser.

When a document is selected and displayed, the matching text is highlighted on the user's browser screen.

The cost for adding the html tags for indexing is included in Section A, the cost for developing the search mechanism for the web site is included in Section C, and the cost of the search software & implementation follows:

Item	Cost
Software License Fee (Public Use – 10,000 users)	\$ 95,000
Annual Maintenance	\$ 19,000
Setup, Configuration, Development, & Integration,	\$ 50,000
Total Estimated Site Development Cost	\$ 164,000

C. Creating and Maintaining the Web Site:

This section deals with the costs associated with hardware, software, personnel, and telecommunications required to create and maintain the web site. Due to the lack of detailed specifications about the appearance and content of the site we can only estimate what the costs will be. Actual costs may increase once the detailed specifications are known.

1. Creating the Web Site.

This section deals with the telecommunications, hardware, software, & personnel needed to create and implement the web site to house the converted documents.

The computers specified are highly fault tolerant utilizing RAID 5 Disk Subsystems, redundant power supplies, dual processors, and high availability server platforms. All systems will be backed up to tape daily. Included in the costs is disaster recovery software that allows any and all servers to be rebuilt quickly in the event of a catastrophic failure. Tapes will be stored off-site in case of catastrophic loss of the facility.

All computer & telecommunications equipment will be protected with UPS capable of maintaining the site for 45 minutes in the event of a power outage. While not specified in this report, a generator could be used to extend the site's ability to stay on-line without utility power indefinitely. The computer and telecommunications hardware will be rack mounted in an open rack.

The site will be configured as 2 identical web servers built on Windows NT 4.0 using IIS 4.0. Load balancing will be through a process known as DNS Round Robin. This technique distributes the requests to each of the 2 web servers in a sequential manner.

Both of the web servers will have the indexing software and all of the documents for speed and redundancy. Once the client locates the appropriate document, the document request will be served from the web server. Each web server will operate independently from the other. This will provide an added level of fault tolerance.

Estimated costs to convert, index, and maintain approximately 14,000 pages of documents, design & build a web site for the documents, and host the web site.

Based on the estimated storage requirements, bandwidth needs, and server availability, the computer & telecommunications equipment required follows:

Quantity	Item	Cost
2	Web Servers	\$ 40,000
	Server Operating Systems & software	\$ 15,000
	Backup Tapes & Cleaning Tapes	\$ 4,000
1	Cisco Router	\$ 15,000
1	Firewall	\$ 5,000
1	Network Switches	\$ 1,000
1	UPS w/software	\$ 2,000
1	Monitor, Keyboard, Mouse, KVM Switch, & cables	\$ 1,000
1	Rack & Shelves	\$ 1,500
	Assembly, OS Installation & Configuration, Network Integration, & Testing	\$ 100,000
	Spare Parts	\$ 20,000
	Total Estimated Hardware, Software, and Integration Cost	\$ 204,500

The estimated costs to develop and implement the web site are as follows:

Item	Cost
Content Development	\$ 12,000
Index Development	\$ 30,000
Programming	\$ 55,000
Testing	\$ 24,000
Project Management	\$ 90,000
Total Estimated Site Development Cost	\$ 211,000

2. Maintaining the Web Site.

This section deals with the estimated annual costs associated with maintaining the site content for the first year after development:

Item	Cost
Content Maintenance	\$ 10,000
Index Server Maintenance	\$ 15,000
Programming	\$ 46,000
Testing	\$ 12,000
Project Management	\$ 26,000
Total Estimated One Year Maintenance Cost	\$ 109,000

Estimated costs to convert, index, and maintain approximately 14,000 pages of documents, design & build a web site for the documents, and host the web site.

D. Updating the Converted Documents:

This section deals only with the costs associated with updating the documents on the web site. Since the scope of the updates is not accurately known, we have included hourly rates for different types of processes.

Item	Rate
Content Maintenance	\$50
Index Server Maintenance	\$110
Programming	\$110
Testing	\$50
Project Management	\$125

E. Yearly Hosting Costs:

This section deals with the costs associated with hosting the site. This includes facilities, physical security, telecommunications, site monitoring, system administration, equipment maintenance, and problem resolution. It is based on having the site staffed 5 days per week and 8 hours per day.

The estimated costs for hosting the site for the first year are as follows. This would start when the development begins.

Item	Cost
1 Dedicated T1	\$ 36,000
¼ Time Operator	\$ 20,000
Off Site Tape Storage	\$ 2,000
Maintenance Contracts	\$ 29,000
Spare parts replacement	\$ 2,000
Facilities Use (Utilities, Security, Lease, etc.)	\$ 6,400
Total Estimated One Year Hosting Cost	\$ 95,400

Note: If the cost of telecommunications or the size of the site changes, then the yearly hosting costs will change accordingly.

F. Provide evidence of the cost associated with helping radio and TV stations to convert their websites to make them accessible to persons with disabilities using W3C/WAI guidelines:

This section deals with the obstacles faced by persons with disabilities when using the Internet. All information about the standards is taken from the W3C/WAI specification. Where possible, the W3C/WAI guidelines will be followed when the site is developed and every reasonable effort will be made to make the site as user friendly to persons with disabilities as it is to those without disabilities.

However, it is extremely difficult to assign a cost to this section. Depending on implementation, adherence to the W3C/WAI guidelines could increase the cost of the site anywhere from 25% to several million dollars. Therefore, we recommend that the desired features of the W3C/WAI specification be incorporated into a site specification document. Once this has been done, a more accurate cost determination can be made.